



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/553,206	12/13/2005	Kjell Sandaker	5060-0102PUS1	1263

2292 7590 03/02/2010  
BIRCH STEWART KOLASCH & BIRCH  
PO BOX 747  
FALLS CHURCH, VA 22040-0747

EXAMINER
----------

CANTELMO, GREGG

ART UNIT	PAPER NUMBER
----------	--------------

1795

NOTIFICATION DATE	DELIVERY MODE
-------------------	---------------

03/02/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/553,206	<b>Applicant(s)</b> SANDAKER, KJELL	
	<b>Examiner</b> Gregg Cantelmo	<b>Art Unit</b> 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 November 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 8-17 is/are pending in the application.
- 4a) Of the above claim(s) 15-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 November 2009 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Amendment***

1. In response to the amendment received November 2, 2009:
  - a. Claims 8-17 are pending with claims 15-17 withdrawn from consideration;
  - b. The requirement for restriction stands;
  - c. The specification and drawing objections have been overcome in light of the amendment;
  - d. The 112 rejection has been overcome in light of the amendment;
  - e. The prior art rejections of record stand.

### ***Election/Restrictions***

2. Applicant's election with traverse of Group I claims 8-17 in the reply filed on November 2, 2009 is acknowledged. The traversal is on the ground(s) that not all of Applicant's grounds of traversal of the species requirement have been made. This is not found persuasive.

First, it should be plainly evident that the restriction between the apparatus of claims 8-14 and the process of claims 15-17 were not presented under the basis of species but rather directed, in accordance with a 371 stage application, with lack of unity of invention wherein the grouped inventions previously indicated were held (and are still held) to lack unity of invention with respect to a common novel inventive concept.

Second, and more materially in the construct of the original restriction, the prior action on the merits clearly establishes, at least a posteriori, that a lack of unity between

Art Unit: 1795

the two groups exists since the originally filed apparatus claims were previously shown to be anticipated by numerous prior art references and thus lack any special technical feature. The MPEP clearly states that lack of unity of invention may be directly evident “a priori,” that is, before considering the claims in relation to any prior art, **or may only become apparent “a posteriori,” that is, after taking the prior art into consideration**. For example, independent claims to A + X, A + Y, X + Y can be said to lack unity a priori as there is no subject matter common to all claims. In the case of independent claims to A + X and A + Y, unity of invention is present a priori as A is common to both claims. However, if it can be established that A is known, there is lack of unity a posteriori, since A (be it a single feature or a group of features) is not a technical feature that defines a contribution over the prior art.

Therefore the Examiner maintains that lack of unity between the apparatus claims and method claims is proper and stands.

Applicant further asserts that the Examiner has no authority to ignore the requirements of 37 CFR 1.475 with respect to examination on the merits directed to a process and apparatus specifically designed to carry out the process.

This argument is not persuasive.

Contrary to Applicant’s unfounded allegation, the Examiner has not “ignored” 37 CFR 1.475. At the onset, this rule clearly stipulates that examination of both a claimed process and apparatus “specifically designed” to carry out the claimed process can only be granted when both inventions present a common special technical feature. As discussed above, and as evidenced by the anticipatory references applied to the

Art Unit: 1795

apparatus claims, the claimed apparatus was not held to present any common special technical feature.

In addition, 37 CFR 1.476(d) states:

“Lack of unity of invention may be directly evident before considering the claims in relation to any prior art, or after taking the prior art into consideration, as where a document discovered during the search shows the invention claimed in a generic or linking claim lacks novelty or is clearly obvious, leaving two or more claims joined thereby without a common inventive concept. In such a case the International Searching Authority may raise the objection of lack of unity of invention.”

Hence since there was a clear absence of a common special technical feature between the claimed apparatus and process, restriction within the guidelines of the MPEP and 37 CFR 1.475-1.476 is evidently proper.

The requirement is still deemed proper and is therefore made FINAL.

***Request for Petition under 37 CFR 1.181 and 1.244***

Applicant's contingent request to petition to withdraw the lack of unity of invention has been noted. The petition and remarks above have been presented to the appropriate petitions reviewer. The petition has been denied. A formal response explaining the denial has either been provided with this office action or will be provided shortly thereafter.

***Claim Rejections - 35 USC § 102***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claim 8 remains rejected under 35 U.S.C. 102(b) as being anticipated by JP 01-234024 (JP '024).

Note that the phrase "for protection of high temperature fuel cells that are subject to load variations more than five percent over a period of one hour" is held to be intended use. Additionally it is noted that the claimed energy can be any form of energy and in this interpretation is held to be electrical energy. With such, the following prior art rejection applies as described herein.

JP '024 discloses a fuel cell system comprising: a) at least one fuel cell 1; b) at least one buffer 9 for storage of surplus energy, arranged to function as a regulating system between the fuel cell and a energy consumption unit; wherein the system further comprises; e) a controller for dumping energy which is required to be led out of the system when the buffer 9 is full or according to need; and d) means 5 for transforming the energy stored in the buffer to a required form of energy, at greater energy need than the fuel cell can meet, or for transforming of energy which is not used and which shall be stored in another form, or for transforming of energy stored in the buffer which shall be dumped in another form (Fig. 1 and abstract as applied to claim 8).

4. Claims 8 and 9 remain rejected under 35 U.S.C. 102(b) as being anticipated by JP 61-190866 (JP 866).

JP '866 discloses a fuel cell system comprising: a) at least one fuel cell 5; b) at least one buffer 15 for storage of surplus energy, arranged to function as a regulating system between the fuel cell and a energy consumption unit; wherein the system further comprises; e) a controller for dumping energy which is required to be led out of the system when the buffer 15 is full or according to need; into d) means 1 for transforming the energy stored in the buffer to a required form of energy, at greater energy need than

Art Unit: 1795

the fuel cell can meet, or for transforming of energy which is not used and which shall be stored in another form, or for transforming of energy stored in the buffer which shall be dumped in another form (Fig. 1 and abstract as applied to claim 8).

The buffer 15 is a pressure boiler (abstract as applied to claim 9).

5. Claims 8-13 remain rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 3,976,506 (Landau).

Landau discloses a fuel cell system comprising: a) at least one fuel cell 12; b) at least one buffer 20 for storage of surplus energy, arranged to function as a regulating system between the fuel cell and a energy consumption unit; wherein the system further comprises; e) means for dumping thermal energy which is required to be led out of the system when the buffer 20 is full or according to need; into d) means for transforming the energy stored in the buffer 20 to a required form of energy, at greater energy need than the fuel cell can meet, or for transforming of energy which is not used and which shall be stored in another form, or for transforming of energy stored in the buffer which shall be dumped in another form (Fig. 1 and abstract as applied to claim 8).

The buffer 20 is a pressure boiler (Fig. 1 as applied to claim 9).

The means for dumping is a steam exhaust from boiler 20 (Fig. 1 as applied to claim 10).

The means for dumping energy from the fuel cell includes a heat exchange feature in the boiler 20 and thus the heated coolant supplied from the fuel cell to the boiler is regarded as a heating element along with the undulating heat exchange conduit within the boiler 20 (Fig. 1 as applied to claim 11).

The energy dumping and transforming components includes a water-steam circuit where water is supplied to the boiler and heat exchange feature in the boiler 20 and steam is expelled from the boiler 20 (Fig. 1 as applied to claim 12).

The boiler 20 functions as a subsystem for recovering heat from the fuel cell and using the recovered heat to heat the water supplied to the boiler into steam (Fig. 1 as applied to claim 13).

### ***Response to Arguments***

6. Applicant argues that the claim preamble is entitled to patentable weight citing *Kropa v. Robie*.

This argument is not persuasive for the following reasons.

First, the fact pattern in the instant application and that of *Kropa v. Robie* are not identical. Notably in the cited case the preamble was to an article claim rendering an article to be an abrasive article. The instant claims are drawn to a fuel cell system and intended use for the system ("... for protection of high temperature fuel cells that are subject to load variations of more than five percent over a period of one hour ..."). It is plainly evident that the decision of *Kropa v. Robie* cannot be linearly applied to the instant claims since the statutory classes of invention are materially different and since the scope and language of the preambles of both fail to establish the same fact pattern. Thus the decision of this case, directed to a descriptive term applied to an article, cannot be found to be applicable to the instant claims which recite intended use for a fuel cell system.



Art Unit: 1795

Second, while intended use recitations and other types of functional language cannot be entirely disregarded (and they have not), in apparatus, article, and composition claims, intended use must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. In re Casey, 370 F.2d 576, 152 USPQ 235 (CCPA 1967); In re Otto, 312 F.2d 937, 938, 136 USPQ 458, 459 (CCPA 1963).

Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. In re Danly, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). See also MPEP § 2114.

The manner of operating the device does not differentiate an apparatus claim from the prior art. A claim containing a “recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus” if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987).

Applicant argues that JP '24 (JP '024) does not teach the preamble of claim 1 (presumably claim 8, as claim 1 has been cancelled and since JP '024 was previously applied to claim 8).

As discussed above, the preamble is held only to recite functionality of the fuel cell system.

It has been established that while intended use recitations and other types of functional language cannot be entirely disregarded (and they have not), in apparatus, article, and composition claims, intended use must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. In re Casey, 370 F.2d 576, 152 USPQ 235 (CCPA 1967); In re Otto, 312 F.2d 937, 938, 136 USPQ 458, 459 (CCPA 1963).

Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. In re Danly, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). See also MPEP § 2114.

The manner of operating the device does not differentiate an apparatus claim from the prior art. A claim containing a “recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus” if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987).

Applicant's response has failed to show any structural distinction between the claimed invention and the system of JP '024. Therefore in the absence of such, the prior art, having the same structural features is held to anticipate the claimed system.

Applicant argues that JP '866 does not teach the preambular language recited in claim 8. However the argument therein is directed to unclaimed language, notably it should be plainly evident that the system fails to recite an intended use or functionality of protection of high temperature fuel cells that are subject to load variations of at least 30 percent over a period of 15 seconds. Claims 8-14 fail to recite any such functionality. Therefore, not only is Applicant's arguments that the preamble should be given weight, which are not persuasive as set forth above, but the arguments presented to the particular functionality of at least 30% over a period of 15 seconds are noticeably absent from the claims and thus also not germane to the claimed invention. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., protection of high temperature fuel cells that are subject to load variations of at least 30 percent over a period of 15 seconds) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

As discussed above, the preamble is held only to recite functionality of the fuel cell system.

It has been established that while intended use recitations and other types of functional language cannot be entirely disregarded (and they have not), in apparatus,

Art Unit: 1795

article, and composition claims, intended use must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. In re Casey, 370 F.2d 576, 152 USPQ 235 (CCPA 1967); In re Otto, 312 F.2d 937, 938, 136 USPQ 458, 459 (CCPA 1963).

Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. In re Danly, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). See also MPEP § 2114.

The manner of operating the device does not differentiate an apparatus claim from the prior art. A claim containing a “recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus” if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987).

Applicant’s response has failed to show any structural distinction between the claimed invention and the system of JP ‘866. Therefore in the absence of such, the prior art, having the same structural features is held to anticipate the claimed system.

Applicant additionally argues that element 15 is not a buffer for storage of surplus energy, but is merely an alternative load to load 20 to prevent generation of excessive voltage by the fuel cell.

This argument is not persuasive

Element 15 is designed such that it can current produced from the fuel cell can be directed from the load 20 to buffer element 15 through a resistive element 14. The resistive element transforms the electric power to heat thereby heating the water in the boiler. This combination of features is held to be an exemplary teaching of buffering power between a fuel cell and load via an buffering system 15. Therefore the boiler 15 of JP '866 is held to reasonably read on the claimed buffer and the rejection stands.

Applicant argues that Landau does not teach the preamble of claim 1 (presumably claim 8).

As discussed above, the preamble is held only to recite functionality of the fuel cell system.

It has been established that while intended use recitations and other types of functional language cannot be entirely disregarded (and they have not), in apparatus, article, and composition claims, intended use must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. In re Casey, 370 F.2d 576, 152 USPQ 235 (CCPA 1967); In re Otto, 312 F.2d 937, 938, 136 USPQ 458, 459 (CCPA 1963).

Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. In re Danly, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). See also MPEP § 2114.

The manner of operating the device does not differentiate an apparatus claim from the prior art. A claim containing a “recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus” if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987).

Applicant's response has failed to show any structural distinction between the claimed invention and the system of Landau. Therefore in the absence of such, the prior art, having the same structural features is held to anticipate the claimed system.

Applicant additionally argues that element 20 is not a storage or buffer for storing surplus energy, arranged to function as a regulating system between the fuel cell and energy consumption unit, as claimed and that the buffer unit of Landau is integral with the power plant and not separate from the fuel cell.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., that the buffer is not integral with the fuel cell and is a separate element from the fuel cell) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

As previously discussed,

Landau discloses a fuel cell system comprising: a) at least one fuel cell 12; b) at least one buffer 20 for storage of surplus energy, arranged to function as a regulating system between the fuel cell and a energy consumption unit; wherein the system further comprises; e) means for dumping thermal energy which is required to be led out of the system when the buffer 20 is full or according to need; into d) means for transforming the energy stored in the buffer 20 to a required form of energy, at greater energy need than the fuel cell can meet, or for transforming of energy which is not used and which shall be stored in another form, or for transforming of energy stored in the buffer which shall be dumped in another form (Fig. 1 and abstract as applied to claim 8).

The buffer 20 is a pressure boiler (Fig. 1 as applied to claim 9).

The means for dumping is a steam exhaust from boiler 20 (Fig. 1 as applied to claim 10).

The means for dumping energy from the fuel cell includes a heat exchange feature in the boiler 20 and thus the heated coolant supplied from the fuel cell to the boiler is regarded as a heating element along with the undulating heat exchange conduit within the boiler 20 (Fig. 1 as applied to claim 11).

The energy dumping and transforming components includes a water-steam circuit where water is supplied to the boiler and heat exchange feature in the boiler 20 and steam is expelled from the boiler 20 (Fig. 1 as applied to claim 12).

The boiler 20 functions as a subsystem for recovering heat from the fuel cell and using the recovered head to heat the water supplied to the boiler into steam (Fig. 1 as applied to claim 13).

Thus the boiler does function as a buffer within the fuel cell system and the rejection stands.

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Landau as applied to claim 8 above, and further in view of either JP 10-334936 (JP '936), U.S. Patent No. 4,622,275 (Noguchi) or U.S. Patent No. 5,482,791 (Shingai).

The difference between claim 14 and Landau is that Landau does not teach of the system further comprising a sub-system with a steam-condensate circuit with a steam turbine.

It is well known in the art to improve the efficiency of power systems by converting energy forms as needed. One known way is to convert steam supplied from a boiler to a turbine which subsequently converts the energy generated by the turbine from mechanical energy into electrical energy and also condenses the steam in the circuit (see JP '936 abstract, or Noguchi Fig. 1 and col. 6, ll. 50-57 or Shingai, Fig. 2 and corresponding disclosure).



The motivation for providing the system with a sub-system having a steam-condensate circuit with a steam turbine is that it improves the energy efficiency of the system.

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of Landau by providing the system with a sub-system having a steam-condensate circuit with a steam turbine as taught by either JP '936, Noguchi or Shingai since it would have improved the energy efficiency of the system.

### ***Response to Arguments***

8. Applicant's arguments filed November 2, 2009 have been fully considered but they are not persuasive.

Applicant argues that the Examiner has not confined the prior art rejections to the best art available.

The maintains that the combination of references relied above in the obviousness rejection of 103 are plainly and clearly well within the guidelines under 35 USC 103 for establishing a lack of obviousness over the invention of claim 14. The provision of multiple secondary references is merely to show that the additional features of claim 14 are well known in the art, thus obvious to one of ordinary skill in the art and thus not patentable. Furthermore, while MPEP section 706.02 recites, "Prior art rejections should ordinarily be confined strictly to the best available art." nowhere does this statement, the remainder of MPEP section 706.02 or 35 USC 103 restricts the application of secondary references to only one reference. Applicant's request lacks

Art Unit: 1795

any legal grounds for withdrawing two of the three secondary references. Therefore the request to withdraw the two alternative rejections or any combination of two of the three grounds of rejection is not persuasive and has not been granted.

As set forth above:

It is well known in the art to improve the efficiency of power systems by converting energy forms as needed. One known way is to convert steam supplied from a boiler to a turbine which subsequently converts the energy generated by the turbine from mechanical energy into electrical energy and also condenses the steam in the circuit (see JP '936 abstract, or Noguchi Fig. 1 and col. 6, ll. 50-57 or Shingai, Fig. 2 and corresponding disclosure).

The motivation for providing the system with a sub-system having a steam-condensate circuit with a steam turbine is that it improves the energy efficiency of the system.

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of Landau by providing the system with a sub-system having a steam-condensate circuit with a steam turbine as taught by either JP '936, Noguchi or Shingai since it would have improved the energy efficiency of the system.

The reliance upon 3 separate references is not improper, as alleged by Applicant, but provides 3 separate prior art teachings to obviate that the additional features of claim 14 are well known in the art, thus obvious to one of ordinary skill in the art and ultimately not patentable.

Therefore this argument is not persuasive.

Applicant's arguments thereafter that Landau does not teach the invention of claim 8 are not persuasive for reasons set forth above.

***Conclusion***

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregg Cantelmo whose telephone number is 571-272-1283. The examiner can normally be reached on Monday to Thursday, 8:30-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1795

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Gregg Cantelmo/  
Primary Examiner, Art Unit 1795